

Good Morning 639

The Daily Paper of the Submarine Branch
With the Co-operation of the Office of Admiral (Submarines)

Little Lady with
Lovely Smile Hails
P.O. Ernest Rothbury



They Make 'Quakes— and Strike Oil

Once upon a time prospectors used an "oil smeller" to find the precious liquid, but to-day this highly scientific business relies on the seismograph and the torsion balance, writes

T. S. DOUGLAS.

ABOUT four hundred wells, of which some 250 have yielded oil, have been drilled in Britain during the war and more than 325,000 tons of petroleum produced.

Prospecting for oil to-day is a highly scientific business. The days of the "oil smeller," the man who just "knew" there was oil under his feet, went long ago. Drilling is an expensive business and oil companies want sound evidence before they start going down four, five and even ten thousand feet in search of the precious liquid.

The success of the modern oil prospector in finding the liquid far below his feet is

remarkable, but there is no absolute certainty of the presence of oil until test wells have been sunk and the field "proved."

First comes the geologist to make a minute examination of the surface indications of the rocks below and judge whether they are of the type to yield oil. At first the rather "rough" men in the oil prospecting business despised the geologist, but to-day he is a key-man, saving thousands of pounds in wasted bores, or showing the way to wells that may be worth millions.

Oil does not occur by "accident" in certain places. It is found in certain well-defined geological conditions.

At one time, many millions of years ago, there was probably oil over very great areas, oil formed by heat and pressure from countless minute marine animals. Where the rocks above and below were non-porous, the oil would lie in a layer.

But in course of time there were many upheavals of the strata, and in the course of

these, potential oilfields were lost—the oil leaked away. But where the upheavals were favourable the oil was trapped, with a good deal of water and some natural gas under pressure.

What the geologist seeks is strata formations where oil is likely to be trapped in this way. He is able to make almost uncanny inferences. Minute fossils that can be seen only with the aid of a strong glass give him information. When a test bore is being made, he examines specimens of the material being brought up from time to time.

In recent years he has been greatly assisted by two devices which enable him to study the invisible, the rocks thousands of feet down which have not been reached by any drilling.

These two devices are the torsion balance and the seismograph. Both are technical devices of some complexity. The torsion balance measures variations in the earth's gravitational field, both in direction and size.

These variations, quite undetectable by an ordinary balance, of course, are plotted and allowances made for local features which might affect the gravity. From the data the geologist, or more correctly the geophysicist, is able to obtain information about the existence of faults, of the density of different strata below, and of great importance in oil prospecting, of the probable presence of syncline or anticline.

The seismograph measures earth movements by means of a pendulum.

It is best known for detecting distant earthquakes. For prospecting purposes, the earthquakes are man-made. A hole is drilled and a charge of high explosive inserted—200 lbs., or considerably more may be used. Detonation is synchronised with a wireless signal.

The exploding material starts an earth wave which travels not along the surface of the earth, but deep through it. The velocity of this compression wave varies as the elasticity or density of the rocks through which it passes.

At some distance a number of seismographs are arranged, and their recordings are photographed on film with the radio signal. By comparison of the different recordings, it is possible to work out the variations in the speed with which the compression wave has travelled in different directions, and from this to deduce the variations in the strata it has passed through.

Rock salt has a low density, and thus the presence of a "salt dome" would be indicated. The method has been likened to the use of radar, but in many ways it is like the "sound ranging" of enemy guns, with the difference that a compression wave in the earth takes the place of a sound wave in the air.

The scientific prospector never asserts the presence of oil. After an exhaustive study he simply states that conditions are, or are not, such as would be favourable to oil-bearing rock.

There are instances of negative tests being obtained in certain spots, and then when new tests were made a few years later, of oil being found.

In connection with the considerable English "find," it is interesting that only in 1936, when, with Government encouragement, 50 licences to prospect were issued, an expert said it was "causing genuine amazement, and many a chuckle in scientific circles."

The reason was, he said, that England had been so prospected that "it is hardly conceivable any large body of oil could exist without having betrayed

CRINOLINED ladies, minus their heads, were what we thought of when we called at Purfleet House, Purfleet to visit your wife, P.O., L.T.O. Ernest Rothbury. You see we got into the wrong part—full of murk and gloom.

As we didn't find anybody there, we went out again and were met by your smiling wife, Ivy. This relieved us intensely, and we forgot all about the mystery writer's special province, and accompanied her into the parsonage where she and her folk are now living.

There we met your daughter Marion, aged sixteen months, whom you haven't seen for more than a year. She's a very pretty little girl, with a lovely smile, and everyone makes a great fuss of her. Ivy says she looks at your picture and says "Daddy" to it. When we were there all she would say was "Drink, drink!"

Having sampled your mother-in-law's tea, we don't blame her if that's what she meant. We found it the most magnificent brew ever, and can quite understand how you must look forward to those "Elevenes."

Your wife is looking forward to visiting relations with you again. This goes, too, for those visits to the State, Regal and Ritz and to listening to the wireless again—with Marion.

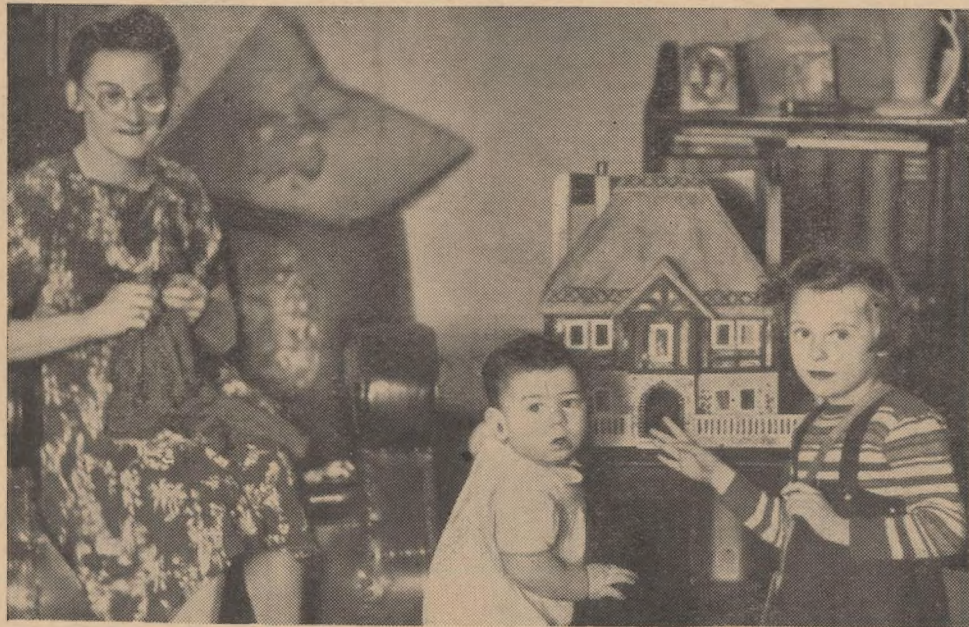
Ivy's father and brother, Albert, are both well, and send their best wishes to you. By the way, Albert—or should we say, "Sonny-boy"—has volunteered for the Canadian Army. He'd just got in from work when we called, and held up operations while he got spruced up for the picture.

It was a brilliant spring day. The wild violets were in bloom and the river was looking particularly lovely, so we all went into the garden, outside the 500 years old Purfleet House, from the balcony of which Dracula is supposed to have started on his rounds.

When, eventually, we were able to stop "Fuse" Wilson looking through his camera at Marion, we left Purfleet House, followed by hearty good wishes from everyone, and a smile from your little daughter, and a special message from Ivy. It is: "Take care of yourself and hurry up home."



House Talk for Sto. P.O. Chapman



TWELVE months ago, Stoker Petty Officer William Henry Chapman had a doll's house made for his little daughter, Janet, as a present for her fifth birthday.

Cecil has to be in it, too, although, this being his first birthday, he wouldn't know much what it was all about.

Mrs. Chapman told us that her sister, Mrs. Bolsom, was coming from Littlehampton to make the cake, and was bringing Pamela (8) and Marylin (6)—whose Dad is somewhere with the Eighth Army—to join in the fun.

If our guess is right, there should be a picture book and some crayons among Janet's presents. There is nothing she likes better than to look at a book, or to do a little colouring with crayons.

She is also getting on splendidly at school, and has now started to learn to play the piano. She seems to have quite a nice touch.

Cecil looks on wonderingly, and would probably like to join her in a duet—but maybe that will come later. He is only just beginning to say "Mum" and "Dad."

Anyhow, P.O. Chapman, we are sure you are proud of both your kiddies, and your wife is, too.

"And she loves it," her mother told "G.M." Janet is great company for Cecil, too. In fact, he now begins to cry after her, and follows her all over the place.

He is growing into a bonny boy, P.O. Chapman, as our photograph will show you, although you have not seen him since he was three months old.

When we called at your home at 91 London Avenue, Portsmouth, Janet was looking forward to another birthday party. It is a great event for a little girl of six to have all her playmates round her on such an occasion.

We ALWAYS write
to you, if you
write first
to "Good Morning,"
c/o Press Division,
Admiralty, London, S.W.1

itself long since." Nevertheless the oil was found.

When the indications are favourable, a well is drilled about one foot in diameter. If the oil is at a great depth, it is a long and tedious business, with many mishaps possible.

The well is usually cased with steel to prevent it becoming blocked. The great problem is, of course, to keep the well dead straight. If all goes well, the drill will eventually reach the "cap" and pierce an oil reservoir.

If there is gas under great pressure, the oil and water will spurt up like soda water, possibly overthrowing the der-

rick and rising hundreds of feet. The well has to be capped and the oil kept under control. In some wells there is little pressure, and in all it becomes exhausted after a time.

Then the oil is pumped up. Explosive may be used to break up the rocks thousands of feet down. In recent years methods have been developed of bringing up oil from wells previously considered exhausted.

Of great importance has been the development of technique for drilling slanting wells, enabling oil under cities or under the sea to be reached and millions of barrels to be obtained from oilfields considered exhausted years ago.

Booze had rotted his soul until his life was unrecognisable as that of a man's . . . But when his test came he still knew how to die like a gentleman. This is one of O. HENRY'S strongest and strangest tales.

THE most disreputable thing in Yancey Goree's law office was Goree himself, sprawled in his creaky old arm-chair. The rickety little office, built of red brick, was set flush with the street—the main street of the town of Bethel.

Bethel rested upon the foot-hills of the Blue Ridge. Above it the mountains were piled to the sky. Far below it the turbid Catawba gleamed yellow along its desolate valley.

The June day was at its sultriest hour. Bethel dozed in the tepid shade. Trade was not. It was so still that Goree, reclining in his chair, distinctly heard the clicking of the chips in the grand-jury room, where the "court-house gang" was playing poker.

From the open back door of the office a well-worn path meandered across the grassy lot to the court-house. The treading out of that path had cost Goree all he ever had—first inheritance of a few thousand dollars, next the old family home, and, latterly, the last shreds of his self-respect and manhood. The "gang" had cleaned him out.

The broken gambler had turned drunkard and parasite; he had lived to see this day come when the men who had stripped him denied him a seat at the game.

His word was no longer to

be taken. The daily bouts at cards had arranged itself accordingly, and to him was assigned the ignoble part of the onlooker. The sheriff, the county clerk, a sportive deputy, a gay attorney, and a chalk-faced man hailing "from the valley," sat at table, and the sheared one was thus tacitly advised to go and grow more wool.

Soon wearying of his ostracism, Goree had departed for his office, muttering to himself as he unsteadily traversed the unlucky pathway. After a drink of corn whisky from a demijohn under the table, he had flung himself into the chair, staring, in a sort of maudlin apathy, out at the mountains immersed in the summer haze.

The little white patch he saw away up on the side of Blackjack was Laurel, the village near which he had been born and bred. There, also, was the birthplace of the feud between the Gorees and the Coltranes.

Now no direct heir of the Gorees survived except this plucked and singed bird of misfortune. To the Coltranes, also, but one male supporter was left—Colonel Abner Coltrane, a man of substance and standing, a member of the State Legislature, and a contemporary with Goree's father. The feud had been a typical

one of the region; it had left a red record of hate, wrong and slaughter.

But Yancey Goree was not thinking of feuds. His befuddled brain was hopelessly attacking the problem of the future maintenance of himself and his favourite follies. Of late, old friends of the family had seen to it that he had whereof to eat and a place to sleep, but whisky they would not buy for him, and he must have whisky.

His law business was extinct; no case had been entrusted to him in two years. He had been a borrower and a sponge, and it seemed that if he fell no lower it would be from lack of opportunity.

One more chance—he was saying to himself—if he had one more stake at the game he thought he could win; but he

had nothing left to sell, and his credit was more than exhausted.

He could not help smiling, even in his misery, as he thought of the man to whom, six months before, he had sold the old Goree homestead. There had come from "back yan" in the mountains two of the strangest creatures, a man named Pike Garvey and his wife. "Back yan," with a wave of the hand towards the hills, was understood among the mountaineers to designate the remotest fastnesses, the unplumbed gorges, the haunts of lawbreakers, the wolf's den, and the boudoir of the bear.

In the cabin far up on Blackjack's shoulder, in the wildest part of these retreats, this odd couple had lived for twenty years. They had neither dog nor children to mitigate the heavy silence of the hills. Pike Garvey was little known in the settlements, but all who had dealt with him pronounced him "crazy as a loon." He acknowledged no occupation save that of a squirrel hunter, but he "moonshined" occasionally by way of diversion.

Once the "revenues" had dragged him from his lair, fighting silently and desperately like a terrier, and he had been sent to state's prison for two years. Released, he popped back into his hole like an angry weasel.

Fortune, passing over many anxious woosers, made a freakish flight into Blackjack's bosky pockets to smile upon Pike and his faithful partner.

One day, a party of spectators, knickerbockered and altogether absurd prospectors

invaded the vicinity of the Garveys' cabin. Pike lifted his squirrel rifle off the hooks and took a shot at them at long range on the chance of their being revenues. Happily he missed, and the unconscious agents of good luck drew nearer, disclosing their innocence of anything resembling law or justice. Later on, they offered the Garveys an enormous quantity of ready, green, crisp money for their thirty-acre patch of cleared land, mentioning, as an excuse for such a mad action, some irrelevant and inadequate nonsense about a bed of mica underlying the said property.

When the Garveys became possessed of so many dollars that they faltered in computing them, the deficiencies of life on Blackjack began to grow prominent.

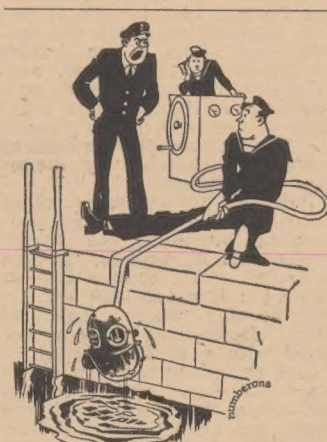
Pike began to talk of new

shoes, a hoghead of tobacco to set in the corner, a new lock to his rifle; and, leading Martella to a certain spot on the mountain-side, he pointed out to her how a small cannon—doubtless a thing not beyond the scope of their fortune in price—might be planted so as to command and defend the sole accessible trail to the cabin, to the confusion of revenues and meddling strangers for ever.

But Adam reckoned without his Eve.

These things represented to him the applied power of wealth, but there slumbered in his dingy cabin an ambition that soared far above his primitive wants. Somewhere in Mrs. Garvey's bosom still survived a spot of femininity unstarved by twenty years of Blackjack. For so long a time

(Continued on Page 3)



"I said 'ANDSOMELY!'"

QUIZ for today

1. A vansire is a Dutch lorry-driver, kind of bat, musical instrument, kind of mongoose, cocktail?
2. Who wrote the books about "The Saint"?
3. Who were Queen Elizabeth's mother and father?
4. At what London hospital was penicillin discovered, and by whom?
5. What does "ap" mean in

such Welsh names as Dafydd ap Ilewellyn?

6. Which of the following is an intruder, and why?—Daily Mail, Daily Herald, Daily Dispatch, Daily Express, Daily Sketch, Daily Mirror.

Answers to Quiz in No. 638

1. Indian lawyer.
2. Eleven: Edward the Elder, Edward the Martyr, Edward the Confessor, and Edward I to Edward VIII.
3. William Beebe, 1934.
4. Rossini.
5. Eratosthenes, 200 B.C.
6. Lesley is sometimes a girl's name; others are always boys.

I get around

RON RICHARDS'

COLUMN



SOUTHAMPTON Water—spelt both with a capital W and a small w—played a very big part in the launching of the invasion of the Continent last summer.

Not only did a large part of the vast invasion fleet set out from the famous estuary known as Southampton Water, but the invading Army and Navy drew enormous quantities of water from the town's water undertaking.

It has now been revealed that the invasion sent up Southampton's water consumption from the normal 10,000,000 gallons a day to just on 17,000,000 gallons a day.

In addition to supplying troops and shipping leaving the port for Normandy, the Corporation waterworks supplied, in three months following D-Day, 65,000,000 gallons of water to be shipped across the Channel in special tankers for the use of the invasion army on the other side.

Statistics of the beer consumption of the invaders before setting out from Southampton are not available, but, as one who suffered, I can vouch for the severe "drought" that prevailed in all the local pubs round about D-Day!



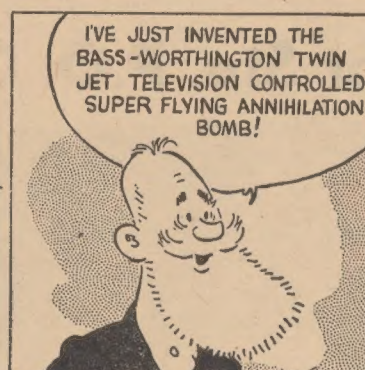
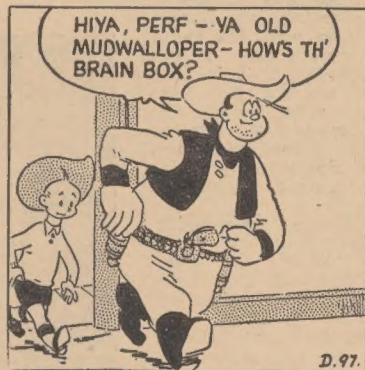
OPENING the morning mail, consisting mostly of cheques in payment of rates, a clerk in the Southampton Corporation Rates Department was surprised to find a cheque for a sum £1 in excess of the rates demanded.

His first reaction was that the ratepayer had made a mistake to his own detriment—a very rare occurrence!

But no, for in an accompanying note the ratepayer explained that he was adding £1 to the amount demanded, "in thankfulness to God for the preservation of my home, kith and kin," and requesting that the money should be used where most needed.

The Finance Committee of the Borough Council have thanked the donor for his generosity and informed him that the money has been paid to a fund which provides boots for needy school children.

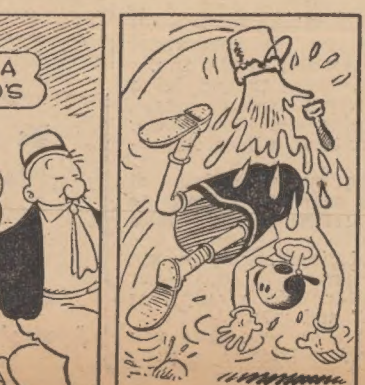
BEELZEBUB JONES



BELINDA



POPEYE



Wangling Words No. 578

1. Behead fragment and get a colour.
2. Here are two cries familiar to travellers in public vehicles, but their words, and the letters in them, have been shuffled. Can you disentangle them?—*Nad eslafe pu uto sieniq refas luf.*
3. What girl's name has L for its exact middle?
4. The two missing words contain the same letters in different order: "It was my —," said the cribbage player, "so it's your —."

Answers to Wangling Words—No. 577

1. T-rick.
2. Keep to the left; major road ahead.
3. BarBara.
4. Still, tills.

JANE

"BLACKJACK BARGAINER"

(Continued from Page 2)

the sounds in her ears had been the scaly-barks dropping in the woods at noon, and the wolves singing among the rocks at night, and it was enough to have purged her of vanities.

She had grown fat and sad and yellow and dull. But when the means came she felt a rekindled desire to assume the perquisites of her sex—to sit at tea tables; to buy inutile things; to whitewash the hideous veracity of life with a little form and ceremony. So she coldly vetoed Pike's proposed system of fortifications, and announced that they would descend upon the world, and gyrate socially.

And thus, at length, it was decided, and the thing done. The village of Laurel was their compromise between Mrs. Garvey's preference for one of the large valley towns and Pike's hankering for primeval

solitudes. Laurel yielded a halting round of feeble social distractions comfortable with Martella's ambitions, and was not entirely without recommendation to Pike, its contiguity to the mountains presenting advantages for sudden retreat in case fashionable society should make it advisable.

Their descent upon Laurel had been coincident with Yancey Goree's feverish desire to convert property into cash, and they bought the old Goree homestead, paying four thousand dollars ready money into the spendthrift's shaking hands.

Thus it happened that while the disreputable last of the Gorees sprawled in his disreputable office, at the end of his row, spurned by the cronies whom he had gorged, strangers dwelt in the halls of his fathers.

A cloud of dust was rolling slowly up the parched street,

with something travelling in the midst of it. A little breeze wafted the cloud to one side, and a new, bright, painted carry-all, drawn by a slothful grey horse, became visible. The vehicle deflected from the middle of the street as it neared Goree's office, and stopped in the gutter directly in front of his door.

On the front seat sat a gaunt, tall man, dressed in black broadcloth, his rigid hands incarcerated in yellow kid gloves. On the back seat was a lady who triumphed over the June heat. Her stout form was armoured in a skin-tight silk dress of the description known as "changeable," being a gorgeous combination of shifting hues.

She sat erect, waving a much-ornamented fan, with her eyes fixed stonily far down the street. However Martella Garvey's heart might be rejoicing at the pleasures of her new

life, Blackjack had done his work with her exterior. He had carved her countenance to the image of emptiness and inanity; had imbued her with the stolidity of his crags and the reserve of his hushed interiors.

She always seemed to hear, whatever her surroundings were, the scaly-barks falling and pattering down the mountainside. She could always hear the awful silence of Blackjack sounding through the stillest of nights.

Goree watched this solemn equipage, as it drove to his door, with only faint interest; but when the lank driver wrapped the reins about his whip, awkwardly descended, and stepped into the office, he rose unsteadily to receive him, recognising Pike Garvey, the new, the transformed, the recently civilised.

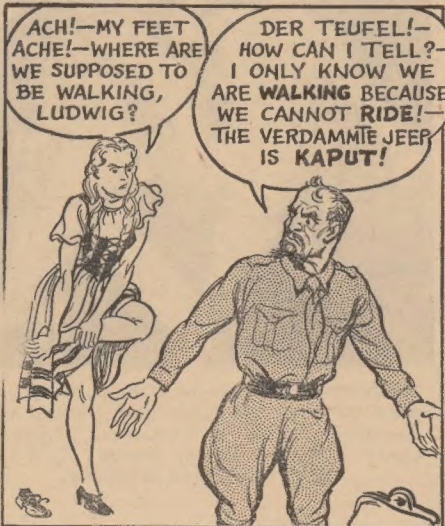
The mountaineer took the chair Goree offered him. They who cast doubts upon Garvey's soundness of mind had a strong witness in the man's counten-

ance. His face was too long, a dull saffron in hue, and immobile as a statue's. Pale-blue, unwinking round eyes without lashes added to the singularity of his gruesome visage. Goree was at a loss to account for the visit.

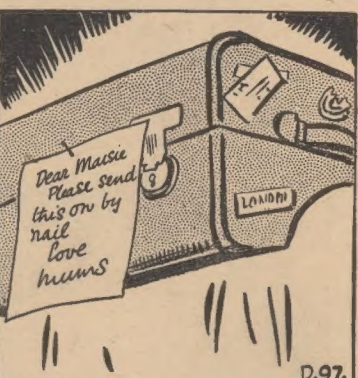
"Everything all right at Laurel, Mr. Garvey?" he inquired.

"Everything all right, sir, and mighty pleased is Missis Garvey and me with the property. The Rogerses, the Haggards, the Pratts and the Troys, hev been to see Missis Garvey, and she hev et meals to most of thar houses. I cya'n't say, Mr. Goree, that sech things suits me—fur me, give me them thar." Garvey's huge, yellow-gloved hand flourished in the direction of the mountains. "That's whar I b'long, 'mongst the wild honey and the b'ars. But that ain't what I come fur to say, Mr. Goree. Thar's somethin' you got what me and Missis Garvey wants to buy."

(More to-morrow)



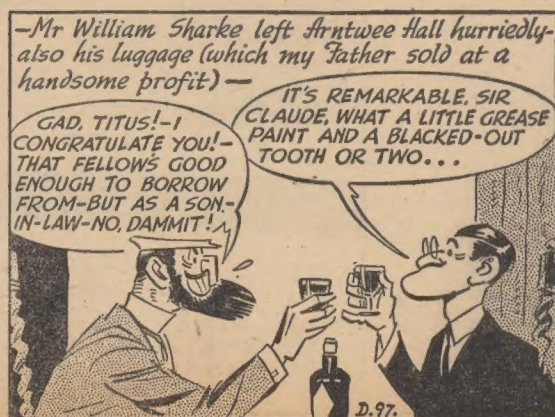
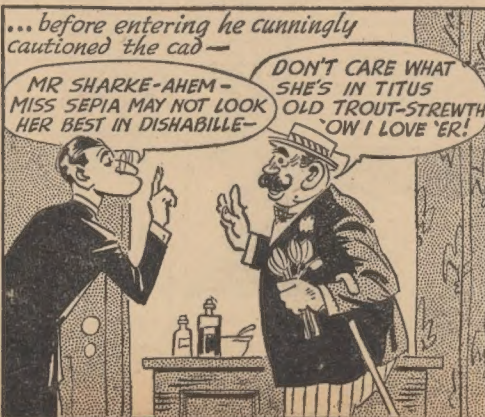
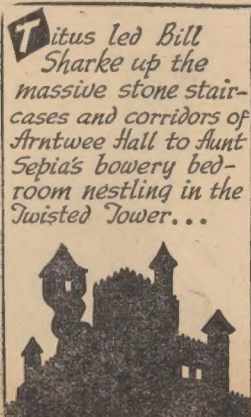
RUGGLES



GARTH



JUST JAKE



Very Hot Air

THE Spitfire XIV, latest model of the Spitfire family, about which news has been released, has a top speed of 450 m.p.h., according to official information. This makes it about 50 m.p.h. faster than the German standard type F.W.190 and about 100 m.p.h. faster than its Jap counterpart, the Army 3 fighter, "Tony."

In fact, the Spitfire XIV should be about the fastest tractor-engined fighter flying to-day.

Most recent news releases of American XP's—Experimental Pursuits—shows fresh outbreak of the usually dormant trend towards "pusher" type fighters. Non-"pusher" XP-75 has a 3,000 h.p. Allison engine and contra-rotating airscrew. Is an ultra-long-range fighter.

Curtiss XP-55, named "Ascender," shows marked similarity in design to the British Miles "Libellula," from which it was probably evolved. Like the "Libellula," it has rudders in wing tips and elevator controls on nose.

Newest gadget in the U-boat war is the German Autogiro Kite. This toylike, motorless single-seater is used as an observation platform. Taking off from the U-boat's deck, it extends vision to 30 miles. A highly important development in the war at sea.

Peter Vincent

CROSS-WORD CORNER

GO ROOM MET
URSA FARINA
SNIFF TAMIL
HATTER NODE
T SNOOTS N
SEA CAN ACT
H PRECIS L
ACRE HOPPER
GLOSS NAIVE
GUNTER KEEN
YES WERE RD

1	2	3	4	5	6	7	8
9			10		11		12
13					14		
	15			16			
17			18			19	20
			21		22		
23	24	25		26		27	28
	29	30			31		
32					33		34
35					36		
		37				38	

- CLUES ACROSS.—1 Exclude.
4 Reject. 9 State of U.S.A.
11 Loop. 13 Complete. 14
Language. 15 Coal mine. 16
Known as. 17 Provisioned. 19
Moisture. 21 Swarming places.
23 Wheel projection. 26 Ordinal
adverb. 29 Doubles over. 31
Shrub. 32 Lowest point. 33
Famous. 35 Girl's name. 36
Bring out. 37 Shelf. 38 Throw.
- CLUES DOWN.—1 Portion.
2 Choose. 3 Proportion. 4 Sun.
5 Unburdened. 6 Wander. 7
Celebrated. 8 Range of sight.
10 Incubate. 12 Team. 16
Scottish Ben. 17 Quoted accur-
ately. 18 Similar. 20 Distorted.
22 Old violin. 24 A distance.
25 Exemplary. 27 Vegetable
mould. 28 Old doctor. 30 Row.
32 Water elf. 33 Lawyer's
charge. 34 North African
governor.

HOPE & CROSBY, LTD.
Dealers in Home-cured "Ham."



"See here, my good man," says Crosby to that dope Hope, "can you dance?" Bing, Bing, Bing goes Bob's heart-strings. He's too full for words.



In the time-honoured vaudeville double-act manner, the boys go into their routine. Bing prepares to clap a double-scissors on the professor.



But Hope springs eternal, as the poet says, and Bob breaks the strangler's grasp and punishes Bing with a torturing toe-hold.



Remembering suddenly that the customers paid to see them dance, they forget their feud. Each makes a mental note to bury the hatchet—in the other one's head.



With their boaters held high, they prepare to leave the stage under cover of a dazzling display of dentures. "Say, is there a dentist in the house?" Those boys both need stopping.



If you ever find yourself at a loose end — pubs shut, no dance-halls — you may care to see the above carryings-on. The film is Paramount's "Road to Utopia." The mugs are Bob Hope and Bing Crosby — as though you cared!



Merle Oberon ties up her hair before breasting the Pacific breakers for a scene with Gary Cooper in Sam Goldwyn's "The Cowboy and the Lady." And what sort of hoss would that cowboy be riding? A sea-hoss, lady, of course.



"Well, print a picture of Deeside," said the Captain of "Totem," and your sick scribe dutifully made a note. And when his stomach ceased diving and surfacing, he passed the signal to appropriate quarters. With the result you see, Sir. Herewith the source of the River Dee, near Braemar. And, incidentally, "Thanks for the buggy ride, mister."



Our cameraman's been drinking again. He sent us this photograph from parts unknown, bearing this legend, "Nomads in Boats. Young Mok girl on the rocks." Sounds like D.T.'S to us!

OUR CAT SIGNS OFF

"And believe me, he's an authority on D.T.'s"

